

## CLAIMS

1. Device for the production of foamed plastic molded parts with an injection molding method, preferably utilizing a physical blowing agent, wherein the injection molding machine includes at least one injection cylinder (2), which includes at least one screw piston extending at least through a draw-in zone (4), a compression zone (5) and a metering zone (6), wherein the blowing agent is supplied preferably into an area following a metering zone (6), characterized in that the blowing agent is supplied only in some locally defined areas, wherein at an end (8) of the metering zone (6), the diameter of the screw piston is reduced and wherein porous or permeable mixing elements are provided.
2. Device according to claim 1, characterized in that by means of the mixing elements (9), a physical blowing agent is supplied to the polymer melt.
3. Device according to claim 1, characterized in that the blowing agent input unit is provided with a bore (11).
4. Device according to claim 1, characterized in that the mixing elements (9) are from sintered-metal or ceramic.

5. Device according to claim 1, characterized in that at least one mixing element (9) is configured as a rotation-symmetrical pin.
6. Device according to claim 1, characterized in that each mixing element (9) is provided with a device for connecting with the screw piston.
7. Device according to claim 6, characterized in that the device for connection with the screw piston includes a threaded bore.
8. Device according to claim 1, characterized in that the mixing element (9) is provided with at least one stepped area.
9. Device according to claim 8, characterized in that the stepped area is capable to receive a seal.
10. Device according to claim 9, characterized in that the seal is from copper or a high heat-proof O-ring.
11. Device according to claim 1, characterized in that a mixing element (9) includes cylinders of varying diameters.
12. Device according to claim 1, characterized in that the mixing element (9) is configured as a cone or a truncated cone.

13. Device according to claim 1, characterized in that a mixing element (9) is configured with a rhomb-shaped or rectangular cross section.
14. Device according to claim 1, characterized in that a mixing element (9) is configured as a straight prism or an angular prism.